

## Patent claims

1. A copolymer containing polyoxymethylene blocks of the structural repeat units of the formula I and blocks containing structural units of  
 5 the formula II



10 where  $R^1$  is a divalent radical derived from a hydroxy-terminated aliphatic or cycloaliphatic oligomer or polymer which, where appropriate, has ether groups and/or carbonyloxy groups in the chain, and

x is a whole number, at least 10.

15 2. The copolymer as claimed in claim 1, wherein x is a whole number from 500 to 10.000, preferably from 1.500 to 5.000.

3. The copolymer as claimed in claim 1, whose polyoxymethylene blocks also contain structural repeat units of the formula III



besides the structural repeat units of the formula I, where y is a whole number from 2 to 4, and z is a whole number from 1 to 3.

25 4. The copolymer as claimed in claim 1, wherein  $R^1$  is a  $-(C_mH_{2m}-O-r)_r$   $C_mH_{2m}-$  radical, m is a whole number from 2 to 4, and r is a whole number from 20 to 1.500, preferably from 50 to 1.000.

30 5. The copolymer as claimed in claim 4, wherein m is 2.

6. A process for preparing the copolymer as claimed in claim 1, encompassing the following measures:

35 i) forming an initial charge from monomers which form  $-O-CH_2-$  units together with monomers of the formula V



where R<sup>1</sup> is as defined in claim 1, together with a catalyst usually used for polymerizing the monomers forming the -O-CH<sub>2</sub>- units, and, where appropriate, together with a solvent, and/or with regulators, and

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- ii) carrying out the copolymerization at a temperature of from 120 to 300°C and at a pressure of from 2 to 500 bar.

7. The process as claimed in claim 6, wherein the resultant block copolymer is treated, after the preparation, with water and/or with a water-soluble alcohol at from 30 to 100°C, preferably at from 50 to 80°C.

8. The use of the copolymers as claimed in claim 1 for producing moldings.